

REMARKS

Summary of the Office Action

Claims 1-8 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Mizumoto et al. (US 5,956,843) in view of Asai et al. (US 6,240,636) or vice versa.

Claim 9 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Mizumoto et al. in view of Asai et al. and further view of Ogura et al. (US 6,660,811).

Claim 10 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Mizumoto et al. ('843) in view of Asai et al. and further view of Mizumoto et al. (US 5,883,335).

Summary of the Response to the Office Action

Applicants have amended claim 1 to further define the invention. In addition, Applicants have amended the Specification and the Title of the Invention to correct minor informalities. Accordingly, claims 1-25 are presently pending with claims 11-25 being apparently withdrawn from consideration.

Election Response

Applicants respectfully request clarification regarding the claims presently being withdrawn from consideration by the Examiner. Specifically, the Restriction Requirement dated August 12, 2005 alleges that three different groups of invention exist in the present application. The Requirement identified a first Group I (claims 1-17) and a second Group II (claims 18-25), wherein the first Group I further allegedly included a first sub-Group IA (claims 1-10) and a second sub-Group IB (claims 11-17). Accordingly, Applicants submitted a Response to the

Requirement on September 12, 2005 electing the first sub-Group IA, corresponding to claims 1-10.

The Office Action dated October 17, 2005 fails to identify or acknowledge that claims 18-25 have been withdrawn from consideration by the Examiner. Specifically, the Office Action indicates that claims 11-17 have been withdrawn from further consideration pursuant to 37 CFR 1.142(b), but provided no indication regarding the status of claims 18-25. For purpose of Applicants' present Response, claims 18-25 are believed to have been withdrawn by the Examiner although no explicit indication has been provided by the Examiner. Thus, if claims 18-25 have not been withdrawn by the Examiner, Applicants respectfully request that the next Office Action not be made final in order to provide Applicants with a fair opportunity to address any rejections that may be applied against any of claims 18-25.

Accordingly, Applicants respectfully request clarification in the next Communication from the USPTO regarding the status of claims 18-25.

The Rejection of Claims 1-10 under 35 U.S.C. § 103(a)

Claims 1-8 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Mizumoto et al. (US 5,956,843) in view of Asai et al. (US 6,240,636) or vice versa, claim 9 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Mizumoto et al. in view of Asai et al. and further view of Ogura et al. (US 6,660,811), and claim 10 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Mizumoto et al. ('843) in view of Asai et al. and further view of Mizumoto et al. (US 5,883,335). Applicants respectfully traverse these rejections for at least the following reasons.

Independent claim 1, as amended, recites a method of manufacturing a built-up printed circuit board with stack type via holes including, in part, a step of “forming a first via-hole through a first copper layer of a first laminated copper sheet by means of a laser drill to expose a second copper layer of the first laminated copper sheet.” In contrast to Applicants’ claimed invention, the dielectric resin film 110 disclosed by Mizumoto et al. (‘843) fails to include “first and second copper layers extending along opposing sides of the first laminated copper sheet,” as required by amended independent claim 1, and hence dependent claims 2-10. Specifically, Applicants respectfully assert that the method disclosed by Mizumoto et al. (‘843) explicitly requires forming via holes through a dielectric material having a single land 520. Thus, Applicants respectfully assert that Mizumoto et al. (‘843) fails to teach or suggest the combination of features recited by amended independent claim 1, and hence dependent claims 2-10.

In addition, Applicants respectfully assert that Asai et al., Ogura et al., and Mizumoto et al. (‘335) fail to remedy the deficiencies of Mizumoto et al., as detailed above. Moreover, Applicants respectfully assert that Asai et al., Ogura et al., and Mizumoto et al. (‘335), whether taken singly or combined, cannot remedy the deficiencies of Mizumoto et al. since none of Asai et al., Ogura et al., and Mizumoto et al. (‘335) teach or suggest a method of manufacturing a built-up printed circuit board with stack type via holes including, in part, a step of “forming a first via-hole through a first copper layer of a first laminated copper sheet by means of a laser drill to expose a second copper layer of the first laminated copper sheet,” as required by amended independent claim 1, and hence dependent claims 2-10.

With regard to the Office Action's allegation that “[i]t is a mere matter of design choice to have a portion of a poly screen corresponding to the via-hole opened so that the via-hole filling material passes through the opened portion to fill all the via-hole during the screen printing,” Applicants respectfully disagree. Applicants respectfully assert that the prior art of record fails to teach or suggest that Applicants' claimed method is “merely a design choice.” Specifically, none of Mizumoto et al. ('843), Asai et al., Ogura et al., and Mizumoto et al. ('335) teach the interchangeability or desirability to use screen printing instead of spot filling. Accordingly, Applicants respectfully assert that the Office Action fails to establish a *prima facie* case of obviousness with regard to at least amended independent claim 1.

With regard to the Office Action's allegation that “it appears that the invention would perform well with spot-filling the via-hole since it is known in the art that only the via-hole is spot-filled by covering the outer portions of the via hole (Mizumoto et al. ('843), col. 5, lines 37-41),” Applicants respectfully disagree. Applicants respectfully assert that the different methods disclosed by Mizumoto et al. ('843) all require subsequent processing of the filling material to remove excess filling material. Specifically, since Mizumoto et al. ('843) explicitly discloses that the filling material more than fills the via holes, the different methods disclosed by Mizumoto et al. ('843) all require steps of removing the excess filling material. Accordingly, Applicants respectfully assert that Mizumoto et al. ('843) fails to provide any proper motivation with which to substitute the spot-filling method with Applicants' claimed method, as recited by amended independent claim 1.

Furthermore, Applicants respectfully assert that the conclusion set forth by the Office Action is neither taught nor suggest by any of the prior art of record. Specifically, none of Mizumoto et al. ('843), Asai et al., Ogura et al., and Mizumoto et al. ('335) teach that it is well known to interchange the spot-filling method disclosed by Mizumoto et al. ('843) with Applicants' claimed method. Accordingly, Applicants respectfully assert that since any combination of Mizumoto et al. ('843), Asai et al., Ogura et al., and Mizumoto et al. ('335) fails to teach or suggest that substituting the spot-filling method of Mizumoto et al. ('843) with Applicants' claimed invention is well known, a mere design choice, or conventional, then the Office Action fails to establish a *prima facie* case of obviousness with regard to Applicants' claimed invention.

For the above reasons, Applicants respectfully assert that the rejections under 35 U.S.C. §103(a) should be withdrawn because none of the applied prior art references, whether taken individually or in combination, teach or suggest the novel combination of features clearly recited in amended independent claim 1, and hence dependent claims 2-10.

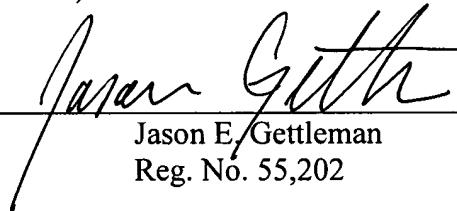
CONCLUSION

In view of the foregoing, Applicants respectfully request reconsideration and the timely allowance of the pending claims. Should the Examiner feel that there are any issues outstanding after consideration of the response, the Examiner is invited to contact the Applicants' undersigned representative to expedite prosecution.

If there are any other fees due in connection with the filing of this response, please charge the fees to our Deposit Account No. 50-0310. If a fee is required for an extension of time under 37 C.F.R. § 1.136 not accounted for above, such an extension is requested and the fee should also be charged to our Deposit Account.

Respectfully submitted,

MORGAN, LEWIS & BOCKIUS LLP

By: 

Jason E. Gettleman
Reg. No. 55,202

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CUSTOMER NO. 09629

MORGAN, LEWIS & BOCKIUS LLP
1111 Pennsylvania Avenue, N.W.
Washington, D.C. 20004
Telephone: (202) 739-3000